

SUPPORT FOR THE AMENDMENT

Support for the amendment of Claim 1 is found on page 7, lines 27-31, in the specification.

Claims 14 and 15 are new and are supported in Example 1, on page 27, lines 27-31, in the specification.

No new matter will be added to this application by entry of this amendment.

Upon entry of this amendment, Claims 1-15 will be active. Claims 9-12 are withdrawn.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a process for the preparation of (2-oxo-1,3,-dioxolan-4-yl)methyl methacrylate having a high yield of high purity product wherein distillation is not necessary. (2-oxo-1,3,-dioxolan-4-yl)methyl methacrylate can be distilled only in high vacuum and therefore requires costly and intricate distillation apparatus. Moreover, under the high thermal load of such distillation, polymerization of the monomer is a risk.

The claimed invention addresses this problem by providing a process for preparing (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate, comprising: transesterifying methyl methacrylate with glycerol carbonate in the presence of stabilizers and a metal chelate catalyst of the metal ion 1,3-diketonate type, precipitating the catalyst, and separating off a filtrate. No such process is disclosed or suggested by the cited references.

Applicants wish to thank Examiner Valenrod and Examiner Kumar for the courteous and useful discussion of the above-identified application with Applicants' U.S. representative on February 15, 2008. At that time, Applicants' U.S. representative proposed

and discussed possible amendments to Claim 1. The following reiterates and expands upon that discussion.

Applicants respectfully note that Claim 1 is herein amended to include the description:

“precipitating the catalyst, and
separating off a filtrate.”

This description is supported in the specification in Examples 1 and 2.

The rejection of Claims 1-8 and 13 under 35 U.S.C. 103(a) over Murakami et al. (U.S. 4,202,990) in view of Just et al. (U.S. 4,772,666) is respectfully traversed.

The combined references neither disclose or suggest a process for the preparation of (2-oxo-1,3,-dioxolan-4-yl)methyl methacrylate according to the presently claimed invention as described in Claim 1.

Murakami is directed to an ester exchange process for the preparation of an ester of an unsaturated carboxylic acid by reacting a lower alkyl ester of an α,β -unsaturated, 3-4 carbon atom carboxylic acid with an alcohol higher than the alcohol fragment of said lower alkyl ester over a catalyst selected from the group consisting of a chelate of a β -diketone with zirconium, calcium and mixtures of them. (Claim 1) In each of the examples, the reaction solution, after ester exchange, is directly distilled to obtain the ester exchange product. Nowhere does this reference disclose or suggest isolating the product by any method other than distillation.

The Office admits that Murakami does not disclose 1) preparation of (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate; 2) the temperature range as claimed in Claim 3; 3) the amount of catalyst and stabilizer as claimed in Claim 6; or the limit to the amount of crosslinker formed as claimed in Claim 7.

Just is cited to show (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate as a methacrylate

ester. The reference describes preparation of monomers, in general, as being “obtained by adding CO₂ to the corresponding glycidyl esters of unsaturated carboxylic acids, such as (meth)acrylic acid, maleic acid, fumaric acid and the like . . .” Nowhere does this reference disclose or suggest preparation of (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate by transesterifying methyl methacrylate with glycerol carbonate in the presence of stabilizers and a metal chelate catalyst of the metal ion 1,3-diketonate type, precipitating the catalyst, and separating off a filtrate.

Applicants respectfully call the Examiner’s attention to the following excerpt from the Office’s own discussion of “**Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.***”

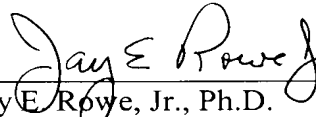
“The rationale to support a conclusion that the claim would have been obvious is that all the **claimed elements were known in the prior art** and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention.⁴³ “[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”⁴⁴ **If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art,”** (Federal Register, Vol. 72, No. 195, page 57529) **(Bold added)**

In view of the Office’s own admission that Murakama is deficient in disclosing all the elements of the description of the claimed invention and Applicants’ showing herein that Just does not cure this deficiency, Applicants respectfully submit that in accordance with the above guidelines a conclusion of obviousness over the cited references cannot be supported. Withdrawal of the rejection of Claims 1-8 and 13 under 35 U.S.C. 103(a) over Murakami et al. in view of Just et al. is respectfully requested.

Applicants respectfully submit that the above-identified application is now in
condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

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